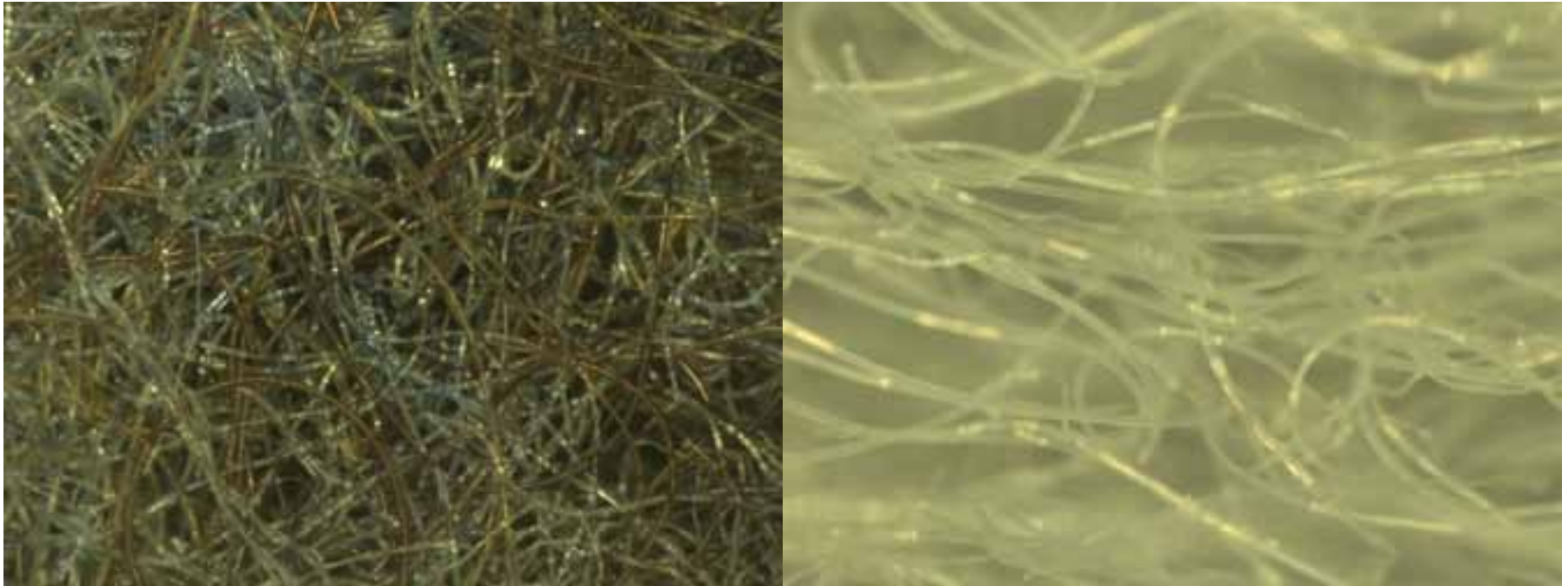


Underbody Panels

- Aerodynamic & (aero)acoustical panels replacing heavy undercoating (PVC) with low specific weight polypropylene reinforced with glass fiber
- Easy separation by dismantling instead of scraping off coating from sheet metal
- Non-toxic thermal recycling (combustion)
- Elimination of spray coating line & solvents



Recycled vs. Virgin Fiber



What's next?

- USCAR's Vehicle Recycling Partnership (VRP) is evaluating a process that converts post-consumer shredder residue foam into usable automotive foams - potentially divert 250,000 tons of post-consumer shredder residue foams from landfills annually.

What's next?

- Auto makers and suppliers are working together to recycle automotive fluff in acoustical components.



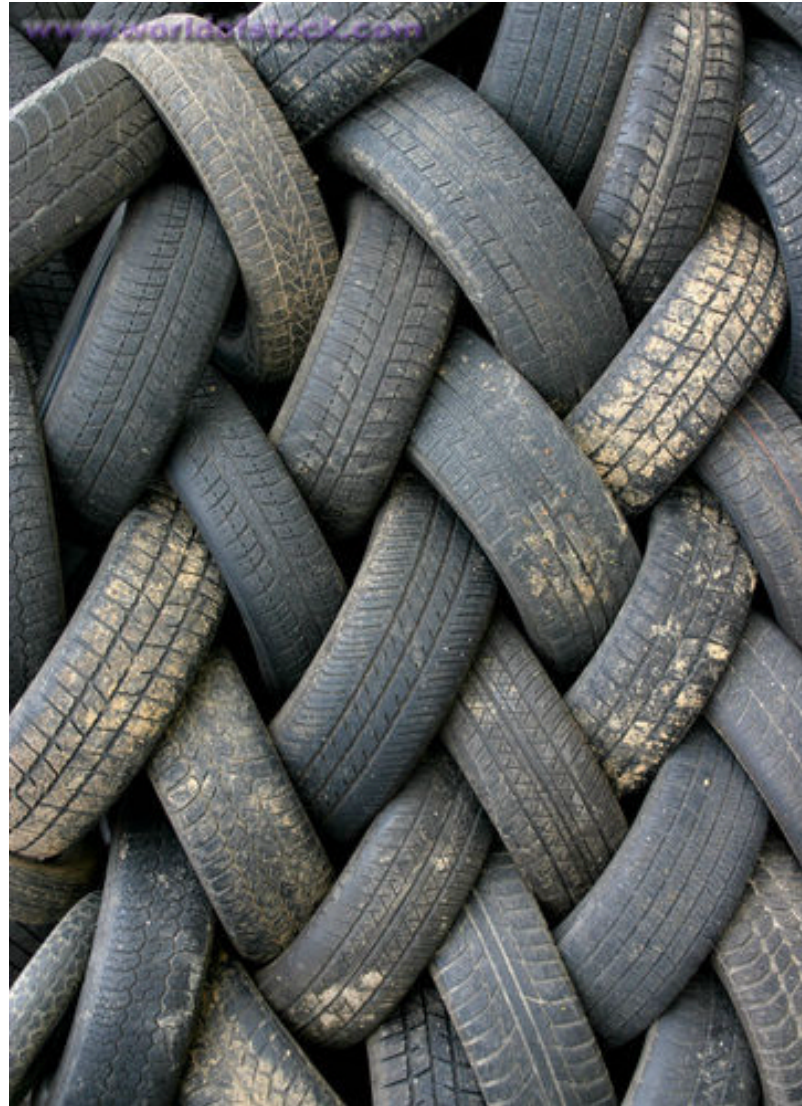
What's next?

Recycling end of life tires
in damping materials

- Tire rubber
- Tire fiber

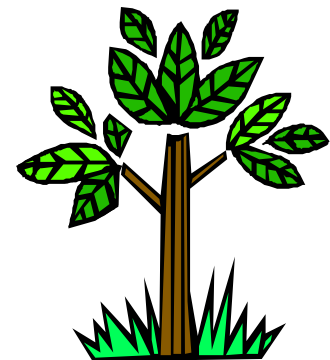
- Tire rubber in powder
can be used as fillers
in damping materials

- Tire fibers can be used
to replace cellulose
fibers in damping
materials



What's next?

- Biodegradable plastics and synthetic fibers made from polylactic acid (PLA) resins
- Stiffening natural fibers , such as jute, abaca, bamboo .. , have been introduced into the fiber blends as an ecological replacement of fiber glass.



What is Abaca ?



A natural fibres from the banana tree family

- **Fibre length 1.5 – 2.7 meters**
- **High tensile strength**
- **Resistant to rotting**